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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,155	08/27/2004	Bryan E. GARNER	5233.012.NPUS00	5154

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EXAMINER	
SHAW, AMANDA MARIE	

ART UNIT	PAPER NUMBER
1634	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/711,155	GARNER, BRYAN E.	
	Examiner	Art Unit	
	Amanda M. Shaw	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,7,9-15 and 37-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7,9-15 and 37-41* is/are rejected.

7)☒ Claim(s) *9 and 12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/15/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 25, 2007 has been entered.

Claims 1-3, 7, and 9-15, and 37-41 are currently pending. Claims 1 and 12 have been amended. Therefore Claims 1-3, 7, and 9-15, and 37-41 will be addressed herein.

Withdrawn Rejections

2. The rejection made under 35 USC 112 1st paragraph (new matter) over the phrase "obtaining a liquid suspension sample" in section 2 of the Office Action of November 1, 2006 is withdrawn in view of the Applicants arguments. The rejections made under 35 USC 112 1st paragraph (new matter) over the phrases "preparing a series of progressively dilute samples" and "utilizing an estimation model" in section 2 of the Office Action of November 1, 2006 is withdrawn in view of amendments made to the claims.

The rejections made under 35 USC 112 2nd paragraph over the phrases "relative quantity", "progressively dilute" and "estimation model" in section 3 of the Office Action

of November 1, 2006 are withdrawn in view of the Applicants amendments to the claims. The rejections made under 35 USC 112 2nd paragraph over the phrases "substantial entirety" and "recovery media" in section 3 of the Office Action of November 1, 2006 is withdrawn in view of Applicants arguments.

The rejections made under 35 USC 102(b) over claims 1, 7, 12-15, and 37-38 as being anticipated by Begum in section 4 of the previous Office Action of November 1, 2006 are withdrawn in view of Applicants amendments.

The rejections made under 35 USC 103(a) over claims 2-3 and 39-40 as being obvious over Begum in view of Ware in section 5 of the previous Office Action of November 1, 2006 are withdrawn in view of Applicants amendments.

The rejections made under 35 USC 103(a) over claims 9-11 as being obvious over Begum in view of Pahuski in section 6 of the previous Office Action of November 1, 2006 are withdrawn in view of Applicants amendments.

The rejection made under 35 USC 103(a) over claim 41 as being obvious over Begum in view of Rust in section 7 of the previous Office Action of November 1, 2006 are withdrawn in view of Applicants amendments.

The rejection made under 35 USC 103(a) over claim 14 as being obvious over Begum in view of Lucchini in section 8 of the previous Office Action of November 1, 2006 are withdrawn in view of Applicants amendments.

The rejection made under 35 USC 103(a) over claim 16 as being obvious over Begum in view of DesRosier in section 9 of the previous Office Action of November 1, 2006 are withdrawn in view of Applicants amendments.

Information Disclosure Statement

3. The information disclosure statement filed May 15, 2007 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered. In the instant case the Applicants submitted an IDS form but did not cite any references on the form.

Claim Objections

This objection is newly presented:

4. Claim 9 is objected to because the claim contains a typo. The typo is found in the phrase "wherein series of progressively dilute". This should be amended to recite,

"wherein **the** series of progressively dilute". Appropriate amendments to the claims are required.

Claim 12 is objected to because the claim contains two typos. The first typo is found in the phrase "wherein the PCR analysis comprises **the** using at least one". This should be amended to recite, "wherein the PCR analysis comprises using at least one". The second typo is found in the phrase "at least one **oglionucleotide**". This should be amended to recite "at least one oligonucleotide". Appropriate amendments to the claims are required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This rejection is newly presented:

6. Claims 1, 7, 9-12, 13, and 15 are rejected under 35 U.S.C. 103(a) as being obvious over Mantynen (International Journal of Food Microbiology 1997) in view of Racioppi (US Patent 5702944 Issued 12/1997) and in further view of Yamamoto (US Patent 5670315 Issued 9-1997).

Regarding Claim 1 Mantynen et al teach a method comprising: obtaining a liquid suspension sample comprising different microorganisms removed from a microbial

treated food product and which includes a substantial entirety of a previously applied and viable microorganism of interest from a known quantity of the microbial treated food product; preparing in a manner corresponding to a most probable number model a series of dilutions; conducting a PCR analysis on the dilutions; and using the most probable number model to determine the concentration of the viable microorganism of interest present based on the results of the PCR. Specifically Mantynen teach a method which utilizes a most probable number PCR assay for detection and enumeration of enterotoxin C producing Staphylococcus aureus from fresh cheese (Abstract). Mantynen teaches that S. aureus was grown and a known amount was added to 1 liter of milk. The milk was then used to make fresh cheese (Page 136, column 2 to Page 137, column 1). For enumeration of S. aureus from cheese, ten fold dilution series from all the samples were prepared. The original and diluted samples were subjected to PCR. As a result the minimum concentration which was amplified was determined. The second lowest dilutions that gave the entC1 amplification product were used to prepare a three fold serial dilution series with three replicates per dilution. These were subjected to PCR and from the amplification results the numbers of positive and negative tubes were scored. The MPN scores were transformed into density estimates using a computer program followed by multiplication with dilution factors (Page 138, column 2 to Page 139, column 1, Figure 2 and Table 1).

Mantynen does not teach a method wherein the microorganisms are suspended in a liquid recovery media.

However Racioppi teaches a method wherein once a microbial sample has been collected the sample is placed a specialized transport media while the sample is transported to the clinical or diagnostic laboratory (Column 1, lines 10-40). Racioppi further teaches that the specialized transport media supports the viability of the microorganism of interest while hindering the growth of other microorganisms in the sample (Column 4, lines 40-52).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Mantynen by placing the sample in a liquid recovery media as suggested by Racioppi. Liquid recovery medias also commonly referred to as transport medias were well known in the art at the time of the invention as demonstrated by Racioppi and thus it would have been obvious to an ordinary artisan to have placed a sample in a recovery media while transporting the sample to a laboratory particularly since transport medias can be designed to support the viability of the microorganism of interest while hindering the growth of other organisms which are present in the sample and may contaminate the sample (Column 4, lines 40-52).

Additionally Mantynen does not teach a method further comprising a step of incubating the series of progressively dilute test samples for a predetermined period of time under conditions conducive to growth of the microorganism of interest.

However Yamamoto teaches that in the most probable number method a sample is diluted, a predetermined portion of each sample dilution is inoculated into a culture medium in a test tube and incubated for a sufficient period thereafter occurrence of cell

growth is observed for each tube, and the statistic treatment of the result give the most probable cell number of the specimen (Column 1 lines 45-55).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Mantynen by performing a step of incubating the series of progressively dilute test samples for a predetermined period of time under conditions conducive to growth of the microorganism of interest. as suggested by Racioppi. While the prior art of Racioppi teaches that an incubation step is not required when the most probable number method is combined with PCR (Column 2, lines 25-47), one would be motivated to perform this step anyway in instances where it is desirable to only detect viable microorganisms because PCR detects both viable and non viable microorganisms however by adding a incubation step this minimizes the number of non viable microorganisms present in the sample.

Regarding Claim 7, Mantynen teaches that two PCR primers that are specific for the detection of the entC1 gene of S. aureus were used to amplify the DNA. These oligonucleotide primers hybridize to the nucleic acid sequence that is being detected and serve as a starting point for DNA amplification (Page 138, Column 2). Therefore Mantynen teach a method wherein at least one oligonucleotide hybridizes with a nucleic acid sequence that is indicative of a species of the specific kind of microorganism.

Regarding Claim 9 Mantynen teach a method wherein the samples were tested in triplicate (Fig 2). Therefore Mantynen teach a method wherein the samples were prepared by dividing the original sample into multiple portions and detecting the presence of the organism of interest in each portion.

Regarding Claim 10 Mantynen teach a method wherein the sample is diluted 1:3 and then the samples were tested in triplicate (Fig 2). Therefore Mantynen teach a method wherein the samples were prepared by diluting the sample and dividing the diluted sample into multiple portions and detecting the presence of the organism of interest in each portion.

Regarding Claim 11 Mantynen teach a method wherein the sample is diluted 1:3 and then the samples were tested in triplicate (Fig 2). Therefore Mantynen teach a method wherein the samples were prepared by diluting the sample with a liquid to produce a fluid mixture and then dividing the mixture into multiple portions and detecting the presence of the organism of interest in each portion.

Regarding Claim 12 Mantynen teaches that two PCR primers that are specific for the detection of the entC1 gene of S. aureus were used to amplify the DNA. These oligonucleotide primers hybridize to the nucleic acid sequence that is being detected and serve as a starting point for DNA amplification (Page 138, Column 2). Therefore Mantynen teach a method wherein the PCR analysis includes detecting the presence or absence of a product of hybridization since if the primers cannot hybridize to the target a PCR product is not formed.

Regarding Claim 13, Mantynen teaches that two PCR primers that are specific for the detection of the entC1 gene of S. aureus were used to amplify the DNA. These oligonucleotide primers hybridize to the nucleic acid sequence that is being detected and serve as a starting point for DNA amplification (Page 138, Column 2). Mantynen further teaches that they were able to detect a 801 bp fragment of the entC1 gene using

primers 1 and 2 and they were also able to detect a 631 bp fragment of the entC1 gene using primers 3 and 4 (Fig 1).

Regarding Claim 15, Mantynen teaches a method wherein the detecting of the presence or absence of a product includes performing electrophoresis (Fig 1).

This rejection is newly presented:

7. Claims 2-3 and 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mantynen (International Journal of Food Microbiology 1997) in view of Racioppi (US Patent 5702944 Issued 12/1997) and Yamamoto (US Patent 5670315 Issued 9-1997) as applied to claim 1 above and in further view of Ware (US Patent 5534271 Issued 1996).

The teachings of Mantynen, Racioppi, and Yamamoto are presented above.

Regarding Claims 2 and 3 the combined references do not teach a method wherein the sample being tested is a sample of animal feed that was taken from a feed pile and transported to a testing lab in way so that the sample at the lab is representative of the condition of the animal feed when the animal feed is to be consumed by animals. Further Mantynen does not teach a method wherein the sample of animal feed is taken from a feed pile at a location where the animal feed is to be consumed by animals.

However, Ware et al teaches a method wherein bacteria cultures of Lactobacillus acidophilus and Propionibacterium P-5 are admixed with an animal feedlot diet to

counter the effects of acidosis brought about by a transition from a roughage dies to a high grain diet. In Example IV Ware teaches that they tested the stability of L. acidophilus and its ability to survive on feed that is being fed to steers. The testing was performed at the Silliker Laboratories in Chicago. Ware et al does not exemplify that the samples are taken from a feed pile at a location where the animal feed is to be consumed and transported to a lab in a way that the sample is representative of the condition of animal feed when the animal feed is to be consumed, however it would be obvious to have tested the sample under the same conditions of the animal feed when it is feed to animals particularly because Ware et al teaches that L acidophilus is a very sensitive organism that is difficult to maintain in a viable state at ambient temperatures. Any shift in the temperature during the transportation of the sample from the animal feedlot to the laboratory could potentially kill the L. acidophilus during transportation thus yielding invalid results (Column 11, lines 33-67). For these reasons it would be obvious to transport the animal feed from the feedlot under the same conditions of the animal feed when it is feed to animals.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Mantynen, Racioppi, and Yamamoto by taking a sample of animal feed to a laboratory in order to perform testing wherein the sample is transported to the lab in a way that the sample is representative of the condition of animal feed when the animal feed is to be consumed as suggested by Ware. The benefit of performing the testing in a lab opposed to at the animal feed lot is that it reduces contamination, particularly since both Microbiology and Molecular

biology assays are very sensitive and can be contaminated easily. The benefit of transporting the samples from the feedlot to the lab in a way that the sample is representative of the condition of animal feed when the animal feed is to be consumed is that if the conditions change it could compromise the sample particularly since Ware teaches that L. acidophilus is very sensitive.

Regarding Claims 37-40 the combined references do not teach a method wherein the microorganism of interest is a probiotic organism, wherein the probiotic microorganism is a species of Lactobacillus, particularly L. acidophilus.

However Ware et al teach a method for detecting Lactobacillus acidophilus and Propionibacterium P-5 found in animal feed (Column 11, lines 33-66).

Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method of Mantynen, Racioppi, and Yamamoto to detect and quantify the amount of a probiotic such as Lactobacillus that was applied to animal feed as suggested by Ware. Probiotics such as Lactobacillus are routinely added to animal feed to increase milk and meat production. It would be beneficial to quantitate the amount of L. acidophilus is animal feed because Ware et al have shown that the amount of the probiotic in animal feed can change depending on the storage conditions (Column 11, lines 22-66).

<u>This rejection is newly presented:</u>

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mantynen (International Journal of Food Microbiology 1997) in view of Racioppi (US

Patent 5702944 Issued 12/1997) and Yamamoto (US Patent 5670315 Issued 9-1997) as applied to claims 1 and 13 above and in further view of of Lucchini (Federation of European Microbiological Societies 1998).

The teachings of Mantynen, Racioppi, and Yamamoto are presented above.

Regarding Claim 14 the combined references do not teach a method wherein one PCR primer hybridizes with a nucleic acid sequence indicative of the genus of the specific kind of microorganism, and another of the PCR primers hybridizes with a nucleic acid sequence indicative of the species of the specific kind of microorganism.

However Lucchini et al teach a method wherein multiplex PCR was performed using four oligonucleotide primers. Two genus specific primers named LARNA5 and LARNA6 were used. These primers were specific to a conserved region of 248 bp within the 16S rRNA gene of lactobacilli. Two species-specific primers named APF3 and APF4 were also used. These primers were specific to L. gasseri (Page 274, column 2).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Mantynen, Racioppi, and Yamamoto so as to have used one PCR primer which hybridizes with a nucleic acid sequence indicative of the genus of the specific kind of microorganism, and another of the PCR primers hybridizes with a nucleic acid sequence indicative of the species of the specific kind of microorganism for the added benefit of being able to distinguish between different species when more than one species is suspected of being present in the sample to be tested.

This rejection is newly presented:

9. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mantynen (International Journal of Food Microbiology 1997) in view of Racioppi (US Patent 5702944 Issued 12/1997) Yamamoto (US Patent 5670315 Issued 9-1997) and Ware (US Patent 5534271 Issued 1996) as applied to claims 1, 37, and 38 above, and in further view of Rust et al (Cattle Call 2000).

The teachings of Mantynen, Racioppi, Yamamoto and Ware are presented above.

The combined references do not teach a method wherein the microorganism of interest is Lactobacillus LA-51.

However Rust et al teach that strain LA51 of Lactobacillus acidophilus can be added to animal feed. The addition of LA51 has been shown to help improve carcass adjusted average daily gain and feed conversion efficiency (Summary).

Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the methods of Mantynen, Racioppi, Yamamoto, and Ware by additionally assaying for Lactobacillus LA51 in animal feed because it is an important microorganism that is routinely added to animal feed to improve carcass adjusted average daily gain and feed conversion efficiency.

Double Patenting

This rejection was previously presented:

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In *re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3, 7, 9-16, and 37-40 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 and 16-17 of copending Application No. 10/711,156 in view of Ware and Rust. Although the conflicting claims are not identical, they are not patentably distinct from each other. Both the present claims and the claims of '156 encompass methods for quantifying the presence of a microorganism in a sample of food. The present claims differ from the claims of '156 in that the claims of '156 do not recite that the microorganism being detected is Lactobacillus, L. acidophilus, or Lactobacillus LA51 in samples of animal feed that are transported from an animal feedlot to a laboratory for culturing and using an oligonucleotide to detect the microorganism. However, Ware teaches a method for detecting L. acidophilus in steer food. The test samples were taken from steer food and

the testing was performed at the Silliker Laboratories in Chicago, IL (Column 11). Ware et al does not exemplify that the samples are taken from a feed pile at a location where the animal feed is to be consumed, however it would be obvious to one of ordinary skill in the art at the time the invention was made to have tested the sample under the same conditions of the animal feed when it is feed to animals because Ware et al teaches that L acidophilus is a very sensitive organism that is difficult to maintain in a viable state at ambient temperatures. Any shift in the temperature during the transportation of the sample from the animal feedlot to the laboratory could potentially kill the L. acidophilus during transportation thus yielding invalid results. Additionally Rust et al teach that strain LA51 of Lactobacillus acidophilus can be added to animal feed. The addition of LA51 has been shown to help improve carcass adjusted average daily gain and feed conversion efficiency (Summary). Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to detect and quantify Lactobacillus LA51 in animal feed because it is an important microorganism that is routinely added to animal feed to improve carcass adjusted average daily gain and feed conversion efficiency.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

RESPONSE TO ARGUMENTS

11. In the response filed April 2, 2007, Applicants stated that pending client documentation a terminal disclaimer will be filed to overcome the non statutory double

patenting rejection. As of the date that this Office Action was created the Office has not yet received the terminal disclaimer. Accordingly, the rejection is maintained.

Conclusion

12. No Claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda M. Shaw whose telephone number is (571) 272-8668. The examiner can normally be reached on Mon-Fri 7:30 TO 4:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached at 571-272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amanda M. Shaw
Examiner
Art Unit 1634

BJ FORMAN, PH.D.
PRIMARY EXAMINER